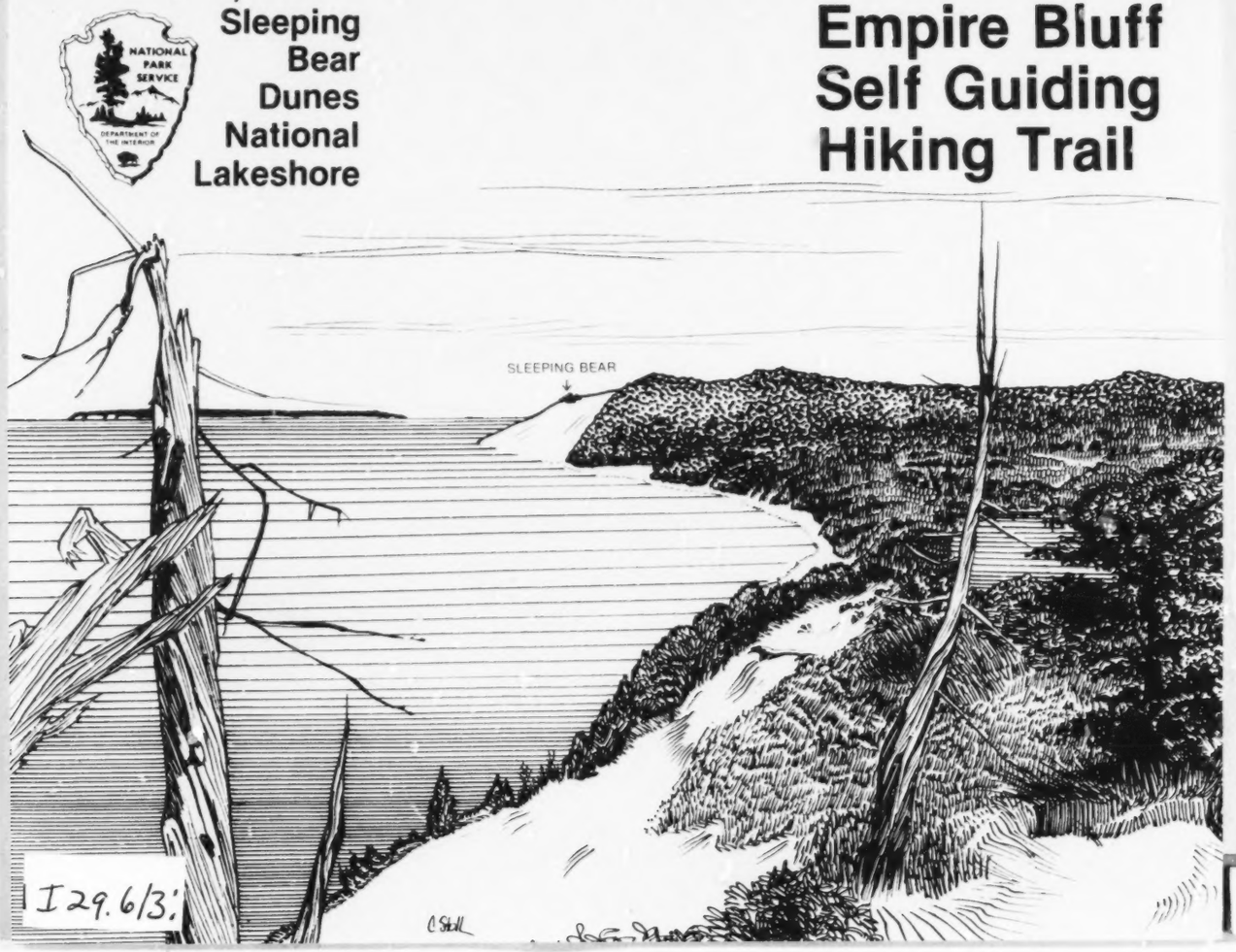
Sl 2 b/22/989

Sleeping
Bear
Dunes
National
Lakeshore

Empire Bluff Self Guiding Hiking Trail



I29.6/3:

READEX FICHE best copy available

Woodland Nettle

Introduction

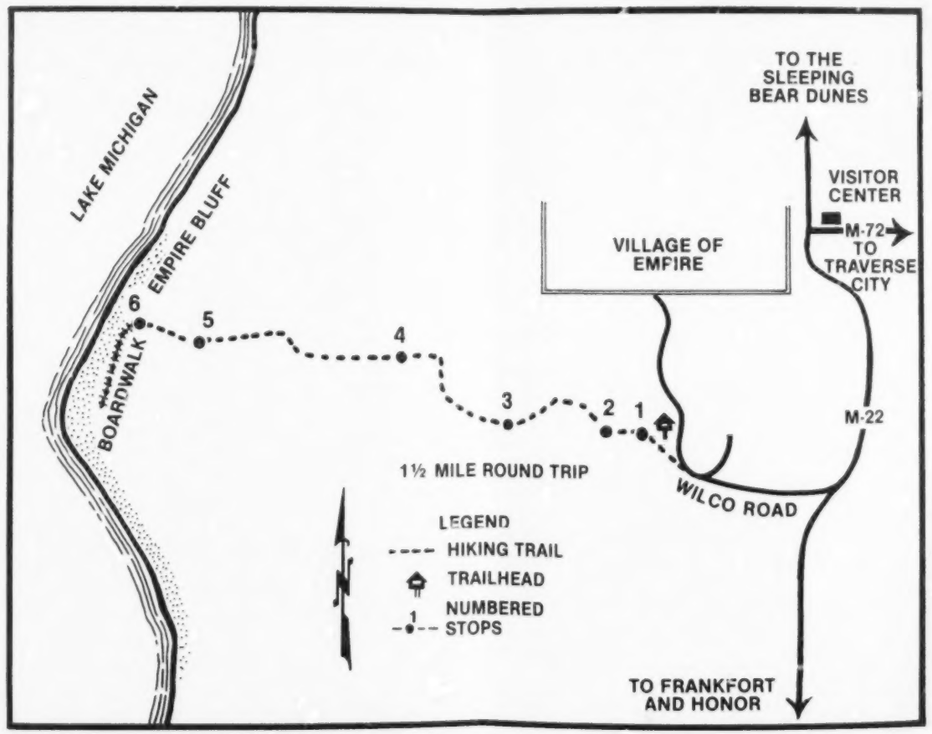
Welcome to the Empire Bluff Nature Trail. Follow the path using this leaflet which is keyed to numbered posts. The destination is the Empire Bluff Overlook, about .75 mile away. We hope you enjoy your walk and that this leaflet will give you a better understanding of the scenery along the way.

For Your Safety: Beware of poison ivy, found mostly in open areas, and stinging nettles, found along wooded sections of the trail.

Poison Ivy

1. The Ice Age

The hilly terrain and scattered boulders are evidence for glaciation. Only about 11,800 years ago, the last glacier melted from this area. Glaciers pick up rock and soil as they move across the land, and, upon melting, deposit the debris irregularly to form hills and valleys. Glacially transported boulders located far from their point of origin are known are erratics, literally "travelers." The bedrock in this area consists of sedimentary rocks such as limestone and shale, but is buried under several hundred feet of glacial deposits. The boulder is a glacial erratic. It must have come from a distant place, perhaps Michigan's Upper Peninsula or Canada.



2. The Old Farm

These glacial soils are quite sandy and not very fertile for farming. However, certain crops, including hay, can be grown here successfully. This McCormick Deering No. 7 mowing machine was manufactured sometime between 1929 and 1940. This horsedrawn mower cut a swath about five feet wide. The enclosed gearbox, a significant improvement over earlier models, allowed for efficient gear lubrication, prevented hay from getting tangled in the gears and provided safer operations for man and animal. With the development of modern farm equipment, many pieces of old machinery such as this one were abandoned in the fields. A number of old farms are scattered throughout the park and help to preserve the flavor of another era.

3. Beech-Maple Forest

Over the years the natural process of plant decay has improved the fertility of the sandy glacial soils. Still they can hardly be called rich. In the summer the trees cast a dense shade. Plants of this forest must be able to tolerate low light levels. Many of the forest wildflowers such as the trillium, bloodroot and Dutchman's breeches bloom in the early spring before the leaves appear on the trees. Young trees deprived of sunlight grow very slowly. If a nearby tree falls, allowing sunlight to reach the young trees, they show a rapid spurt of growth. Before long the gap in the leafy canopy is closed and dense shade prevails again.

The beech-maple forest is considered the climax forest in this region. That means that it will persist indefinitely unless fire, logging or some other disturbance destroys it. When such an event occurs, pines, oaks and aspens may temporarily dominate the newly-formed, sunny environment. Once these trees mature, the forest floor is again shaded and beeches and maples can usually out-compete other trees under these conditions.

Common Trillium

Within the boundaries of Sleeping Bear Dunes National Lakeshore, all wildflowers are protected. The trillium is also protected throughout the entire State of Michigan. The plant must be six years old before it produces its first flower.

4. The Old Orchard

The Grand Traverse region, known as the Cherry Capital, is well suited to growing various kinds of fruit trees. In about 1910, the Empire Lumber Company planted extensive orchards on its logged-over lands. An orchard extended all the way from the Village of Empire (you may be able to catch a glimpse of it to the north, through the trees) up the hill to this meadow. The apple and plum trees growing here today do not seem to be from these old orchards, but may have sprung up from fruit discarded in the area.

Lake Michigan plays an important role in moderating the local climate. After the long cold winter, the icy waters keep air temperatures cool in spring. This helps to prevent fruit trees from blooming too early, when a killing frost might still occur. Orchards on sloping ground benefit from natural air drainage. Heavy, cold air seeks low ground, while slopes and uplands stay slightly warmer. Thus the hilly glacial terrain makes ideal orchard country.

5. American Yew

The evergreen shrub that grows so densely through this basin is the American yew. It favors moist, shady locations and is one of the favorite foods of the white-tailed deer. (It is poisonous to people and cattle.)

In a normal winter, this area gets about 100 inches of snowfall. The fluffy snow insulates the plants from the cold winter air. During the winters of 1986-87 and 1987-88 the snowfall was much below normal, leading to winter damage of the plants here.

REPRINT 6-89 ☆ U.S. GOVERNMENT PRINTING OFFICE: 1989-657-108

6. Empire Bluff Overlook

Standing here about four hundred feet above Lake Michigan, you can survey a large portion of Sleeping Bear Dunes National Lakeshore. Lobes of ice once occupied Platte Bay to the south and the Empire Embayment to the north. Glacial meltwaters deposited the sandy layered sediments of the Empire Bluffs. South Bar Lake, just north of the Village of Empire, was once a part of Lake Michigan. Longshore currents deposited the sand bar that now separates the two lakes.

Beyond the Empire Embayment, the Sleeping Bear Bluffs can be seen. The Sleeping Bear Dune itself, which gives its name to the entire dunes complex, the National Lakeshore, and other features in the area, appears as a small hill on top of the high, sandy bluff. Historically the dune was a landmark for travelers on Lake Michigan. Its location and dark vegetation drew attention to it. Now wind erosion has destroyed much of the dune.

About seven miles offshore is South Manitou Island. Among its points of interest are an 1870 lighthouse, historic farms, perched sand dunes, and a grove of giant white cedar trees. The entire National Lakeshore includes about 68,000 acres and was authorized by Congress in 1970 to preserve the outstanding natural features of this area: glacial phenomena, sand dunes, beaches and forests.

This is the end of the "self guiding" portion of this trail. Ahead you see a section of boardwalk that extends for 500 feet south along the shoulder of the Empire Bluff. This boardwalk has been installed to prevent erosion and gullying of the fragile bluff face. **Descending the bluff is discouraged for safety reasons and to protect the natural setting.**

Empire, Mich. from Orchard Hill (Circa 1912).